

Claims

1. (Previously presented) A thermogelling biodegradable aqueous polymer solution, comprising:

- a. a biodegradable graft polymer, comprising:
 - i. a polyethylene glycol (PEG) block, and
 - ii. a biodegradable polyester block, wherein
 - iii. said blocks are linked to form a polymer of a general structure

comprising the formula of $A_n(B)$, where n is greater than 2 and A is selected from the group consisting of a polyethylene glycol block and a biodegradable polyester block, B is selected from the group consisting of a polyethylene glycol block and a biodegradable polyester block, and A is different from B ; and

- b. an aqueous solution.

2. (Original) A thermogelling biodegradable aqueous polymer solution according to claim 1 wherein n is between 3 and 10.

3. (Currently amended) A thermogelling biodegradable aqueous polymer solution according to claim 1 wherein said polyethylene glycol (PEG) has ~~an~~ a weight average molecular weight of between about 300 and 20,000.

4. (Currently amended) A thermogelling biodegradable aqueous polymer solution according to claim 1 wherein said polyethylene glycol (PEG) has ~~an~~ a weight average molecular weight of between about 500 and 10,000.

5. (Currently amended) A thermogelling biodegradable aqueous polymer solution according to claim 1 wherein said polyester block has ~~an~~ a weight average molecular weight of between about 1,000 and 30,000.

6. (Currently amended) A thermogelling biodegradable aqueous polymer solution according to claim 1 wherein said polyester block has ~~an~~ a weight average molecular weight of between about 1,000 and 10,000.

7. (Previously presented) A thermogelling biodegradable aqueous polymer solution according to claim 1, wherein said biodegradable polyester block is selected from the group consisting of poly(DL-lactic acid), poly(L-lactic acid), poly(glycolic acid), poly(ϵ -caprolactone), poly(γ -butyrolactone), poly(γ -valerolactone), poly(β -hydroxybutyric acid), and their copolymers or terpolymers.

8. (Original) A thermogelling biodegradable aqueous polymer solution according to claim 7, wherein said copolymers and/or terpolymers are selected from the group consisting of poly(DL-lactic acid-co-glycolic acid), poly(L-lactic acid-co-glycolic acid), poly(ϵ -caprolactone-co-DL-lactic acid), copoly(ϵ -caprolactone-co-DL-lactic acid-glycolic acid).

9. (Previously presented) A biodegradable bioactive agent delivery system, comprising:

- a. an effective amount of bioactive agent contained in;
- b. a thermogelling biodegradable aqueous polymer solution comprising
 - i. a biodegradable graft polymer, comprising a polyethylene glycol (PEG) block, a biodegradable polyester block, wherein said blocks are linked to form a polymer of a general structure comprising the formula $A_n(B)$, where n is greater than 2 and A is selected from the group consisting of a polyethylene glycol block and a biodegradable polyester block, B is selected from the group consisting of a polyethylene glycol block and a biodegradable polyester block, and A is different from B , and
 - ii. an aqueous solution.

10. (Original) A biodegradable bioactive agent delivery system according to claim 9 wherein said bioactive agent is a drug.

11. (Original) A biodegradable bioactive agent delivery system according to claim 10 wherein said drug is selected from the group consisting of anti-cancer agents, hormones, antibiotics, narcotic antagonists, analgesics, anti-inflammatory agents, anti-depressants, anti-epileptics, anti-malarial agents, immunoactivators, growth factors, radioprotection agents, vaccines, gene therapy agents, oligonucleotides, antisense, peptides and proteins, and combinations thereof.

12. (Original) A biodegradable bioactive agent delivery system according to claim 10 wherein said drug is an anti-cancer agent.

13. (Original) A biodegradable bioactive agent delivery system according to claim 12 wherein said anti-cancer agent is a member selected from the group consisting of adriamycin, mitomycin, bleomycin, cisplatin, carboplatin, doxorubicin, daunorubicin, 5-fluorouracil, methotrexate, taxol, taxotere, and actinomycin D.

14. (Original) A biodegradable bioactive agent delivery system according to claim 10 wherein said drug is a polypeptide.

15. (Original) A biodegradable bioactive agent delivery system according to claim 14 wherein said polypeptide is a member selected from the group consisting of oxytocin, vasopressin, adrenocorticotrophic growth factor (PDGF), prolactin, luteinizing hormone releasing hormone (LHRH), growth hormone, growth hormone releasing factor, insulin, somatostatin, glucagons, interleukin-2 (IL-2), interferon- α, β, γ (IFN- α, β, γ), gastrin, tetragastrin, pentagastrin, urogastroline, secretin, calcitonin, enkephalins, endorphins, angiotensins, thyrotropin releasing hormone (TRH), tumor necrosis factor (TNF), nerve growth factor (NGF), granulocyte-colony stimulating factor (G-CSF), granulocyte macrophage-colony stimulating factor (M-CSF), rennin, bradykinin, bacitracins, alpha-1 antitrypsin, platelet derived growth factor, albumin, anti-thrombin III, glucocerebrosidase, DNase, tissue plasminogen activator, calcitonin, clotting factors VII, VIII, and IX, LHRH antagonists, insulin, erythropoietin, polymyxins, colistins, tyrocidin, gramicidines, and synthetic analogues, modifications and pharmacologically active fragments thereof, monoclonal antibodies and soluble vaccines.

16. (Original) A biodegradable bioactive agent delivery system according to claim 9 wherein said therapeutic agent is a cell.

17. (Original) A biodegradable bioactive agent delivery system according to claim 9 wherein said thermogelling biodegradable aqueous polymer solution provides as a solubilizer.

Claims 18-34 (Cancelled)